# TT2200/2020

marantz®

model TT2200/TT2020

*Turntable*

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| Version | Destination |
|---|---|
| N | Europe (220V 50 Hz) |
| T | England (240V 50 Hz) |
| A | Australia (240V 50 Hz) |
| C/U | North America (120V 60 Hz) |
| E | General (110/220V 50/60 Hz) |
| AE | General (110/220V 50/60 Hz) |

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# (1)ADJUSTMENTS

**1. Tools required for adjustment**

(1) Phillips-head screwdrivers (for M3 and M4)
(2) Slotted-head screwdrivers (medium and small sizes)

Caution for adjustments
(1) Plug off the AC power supply cord.
(2) Return the tonearm to tonearm rest and fix the tonearm to the tonearm rest with the lock-lever.
(3) Remove the turntable platter and mat.
(4) Set the cueing knob to the ▼ position.

**2. Turntable platter height and level**

(a) Install the turntable in a servicing jig and remove the turntable mat and platter, if installed. Place the turntable upside down to remove bottom cover (Fig. 1).
(b) Remove with a Phillips-head screwdriver the eight screws which hold the bottom base. (Fig. 2)
(c) Re-set the unit for normal use on the table.
(d) Remove the transit screws (red). (Fig. 3)
(e) Replace the turntable platter, mat and install a record. Move the turntable shaft by your hand vertically and horizontally to make sure that the sub-chassis is suspended from the cabinet.
(f) Measure from the surface of the cabinet to the height of the installed record. This dimension should be within 20.5–22.0 mm (0.807–0.870 in.). Adjust the sub-chassis suspension screws to acquire this distance. Refer to Fig. 5.

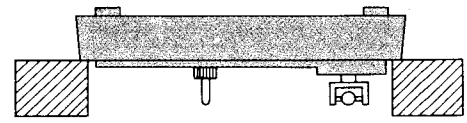

Fig. 1

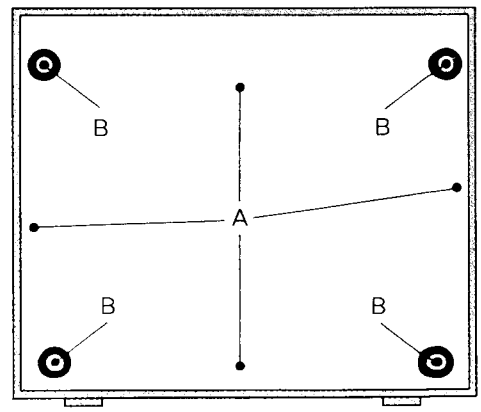


Fig. 2

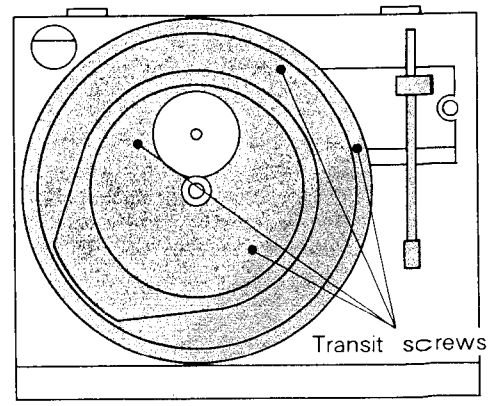


Fig. 3

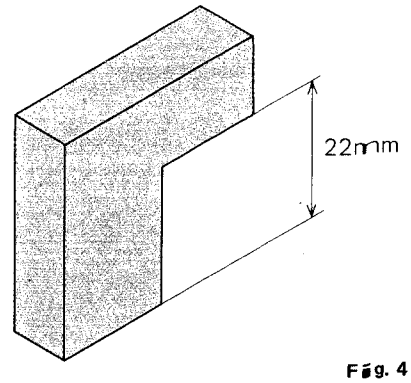


Fig. 4

**3. Stylus clearance adjustment**

(a) Set the cueing knob to ▼ position and move the tonearm over the record serface (Fig. 6). The clearance between the stylus point and the record should measure between 6–10 mm (0.24–0.39 in.). This dimension is set by screw A (Fig. 6).

(b) Move the tonearm to the end of the record and slowly rotate the turntable platter until the tonearm starts returning. Stop the platter rotation when the tonearm is in the approximate position as above. Again measure the distance between the stylus point and the record surface. This measurement should be approximately the same clearacne 6–10 mm (0.24–0.39 in.). If the height needs to be adjusted, adjust screw B (Fig. 6).

**4. Auto-return ratchet adjustment**

(a) Adjust the gap between the turntable gear hook (Fig. 7) and the ratchet trigger for 0.3–0.4 mm (0.012–0.015 in.) by turning the adjusting pin.

**5. Auto-return adjustments**

(a) Set the cueing knob to the ▼ position.

(b) Move the tonearm to the end of the record disc so that the end of the program is just occuring. Rotate the adjusting screw so that the ratchet trigger does not engage the turntable gear hook until complete record ends (Fig. 8).

(c) After this adjustment, check that the tonearm returns at the end of the completed program on the disc. We recommend to use a test record comparable to stock No. RG-800 for this check.

**6. Micro-switch adjustment**

(a) Adjust the distance between the micro-switch and the tonearm fixing plate for the distance specified in Fig. 9. Note that two different types of micro-switches are used in this model and that each type requires a different gap.

(b) Rotate the drive gear through its complete cycle to make sure that the micro-switch is functioning properly by the movement of the return plate assy.

**7. Speed adjustment**

(c) Set the cueing knob to the ▼ position and move the tonearm over the turntable platter. The turntable platter should be rotating. Adjust the variable resistors (Fig. 10) so that the strobe index on the platter edge stops and holds completely still. The speed should be checked and adjusted for both modes (33 and 45 rpm).

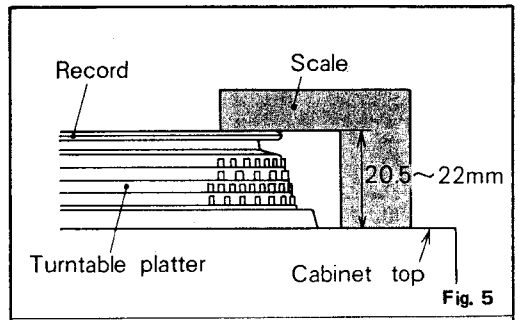

Fig. 5

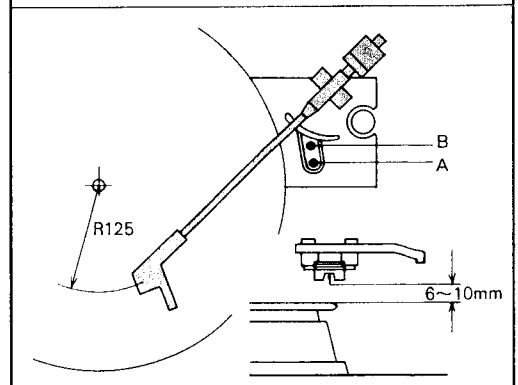

Fig. 6

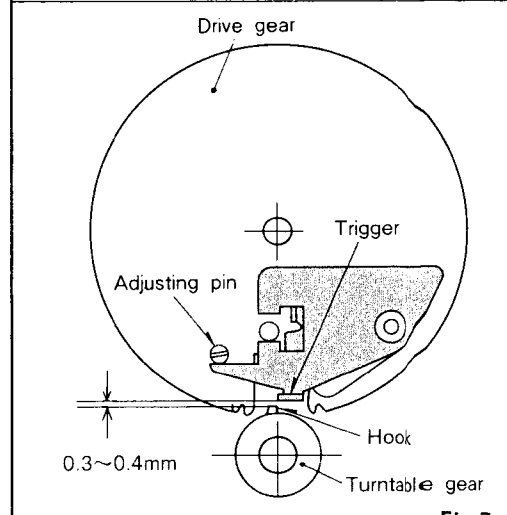

Fig. 7

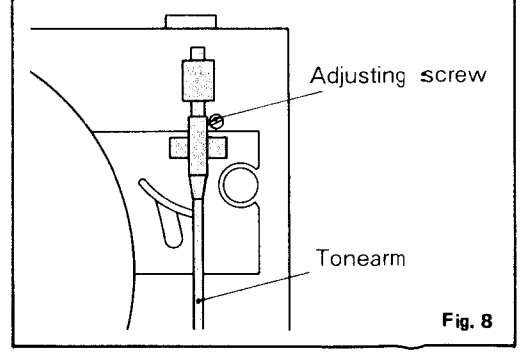

Fig. 8

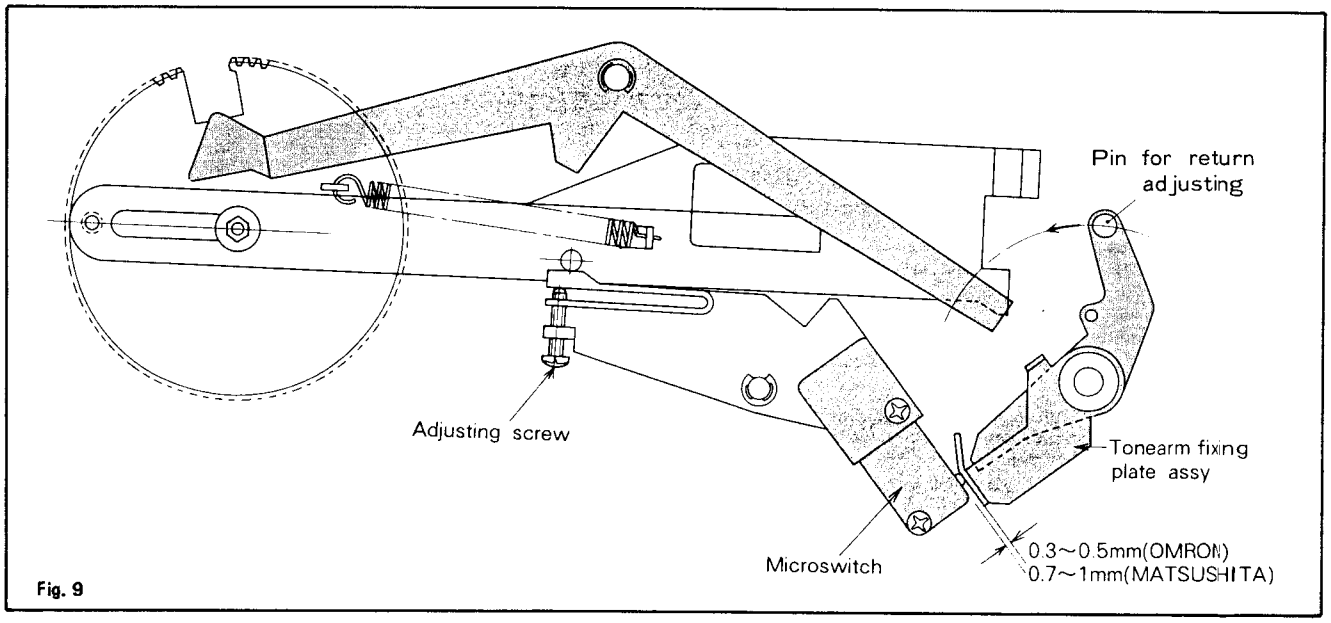
Pin for return adjusting
Adjusting screw
Tonearm fixing plate assy
Microswitch
0.3~0.5mm(OMRON)
0.7~1mm(MATSUSHITA)

Fig. 9

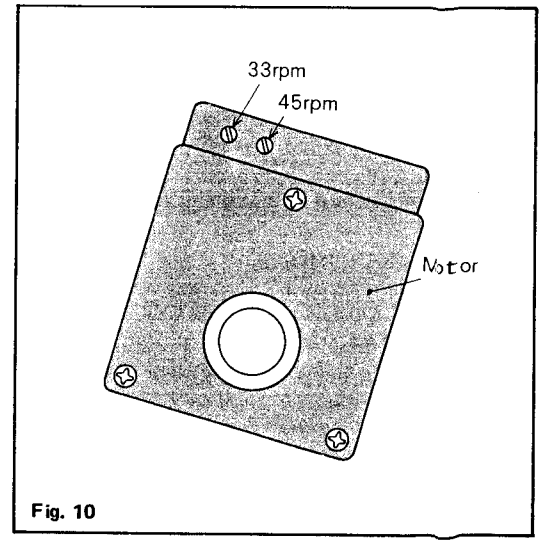
33rpm
45rpm
Motor

Fig. 10

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# (2) TROUBLESHOOTING

1. The turntable platter will not rotate even though tonearm is above the record.
   Check to see that the voltage is supplied between (3) and (4) terminals in Power supply printed circuit board when tonearm is moved above the record.

   ┌No: Power supply cord is defective.
   └Yes: Check to see that the voltage is supplied between (31) and (32) terminals in Power supply printed circuit board.

   ┌No: Power transformer is defective.
   └Yes: Check to see that the voltage is supplied between (25) and (30) terminals in Power supply printed circuit board.

   ┌No: The rectification circuit is defective.
   └Yes: Motor is defective.

2. The tonearm returns to tonearm rest upon placing on the record.
   Check to see that the gap between turntable gear and ratchet is adequate referring to Adjustment 4.

   ┌No: Adjust the gap.
   └Yes: Check to see that return arm moves to the original position when tonearm is moved from the center of the turntable to tonearm rest by hand.

   ┌No: Return arm is not correctly mounted.
   └Yes: Tonearm fixing plate assy. is not correctly mounted, or drive gear assy. is not laterally mounted.

3. The tonearm will not automatically return.
   Check to see that the gap between turntable gear and ratchet is adequate referring to Adjustment 4.

   ┌No: Adjust the gap.
   └Yes: Check to see that tonearm returns when tonearm is moved to the most inner position of turntable.

   ┌No: The tonearm fixing plate assy. is not correctly mounted.
   └Yes: Adjust return position referring to Adjustment 5.

4. The turntable platter will not stop rotating.
   Check to see that the knob of microswitch is sufficiently pushed by tonearm fixing plate assy. when tonearm returns to tonearm rest.

   ┌No: Tonearm fixing plate assy. is not correctly mounted.
   └Yes: Check to see that the gap between tonearm fixing plate assy. and microswitch is adequate referring to Adjustment 6.

   ┌No: Adjust the gap.
   └Yes: Microswitch is defective.

5. The strobe light will not turn on.
   Check to see that supplied voltage between (7) and (14) terminals is adequate when tonearm moves above the record.

   ┌Yes: Neon lamp is defective.
   └No: Resistor for voltage adjustment is defective.

6. No sound from the speaker.
   Remove headshell. Touch the upper two terminals (L+ and R+) at the end of tonearm with a metalic screwdriver and listen for the speaker to produce a humming noise. (Fig. 11)

   ┌Yes: Cartridge or headshell lead-wires is defective.
   └No: Perform continuity test between tonearm end and output shielded cord on dead channel. (Fig. 12)

   ┌Yes: ⊕ and ⊖ cables are not isolated.
   └No: Plug of output shielded cord or terminal is wrong connected. Perform continuity test of input terminal of amplifier (receiver)

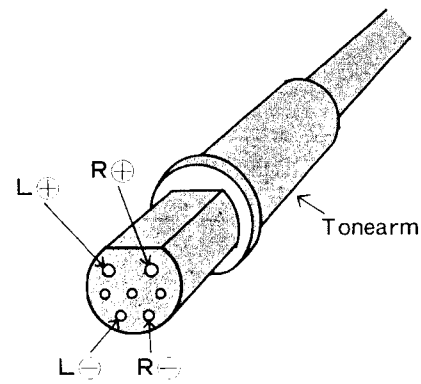


Fig. 11

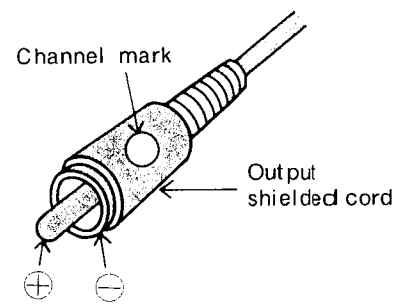
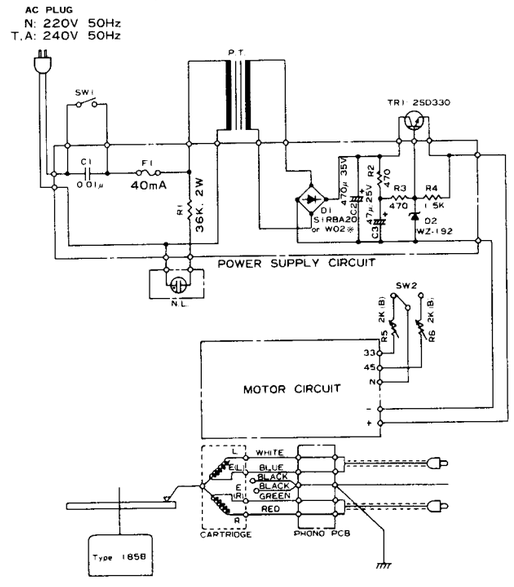


Fig. 12

# (3)DIAGRAMS

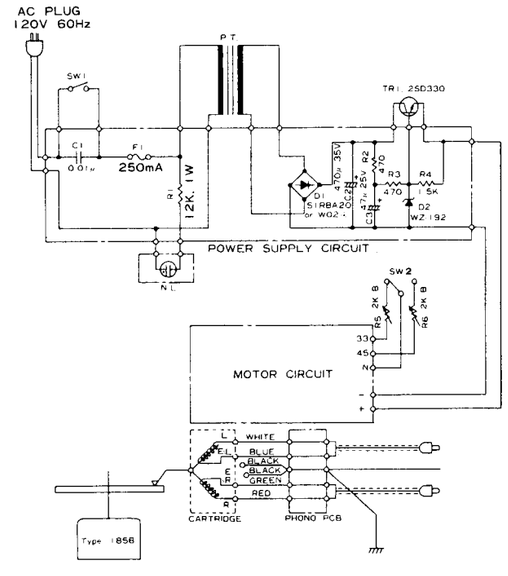
## (3)-1Circuit Diagrams

### Version N,T,A



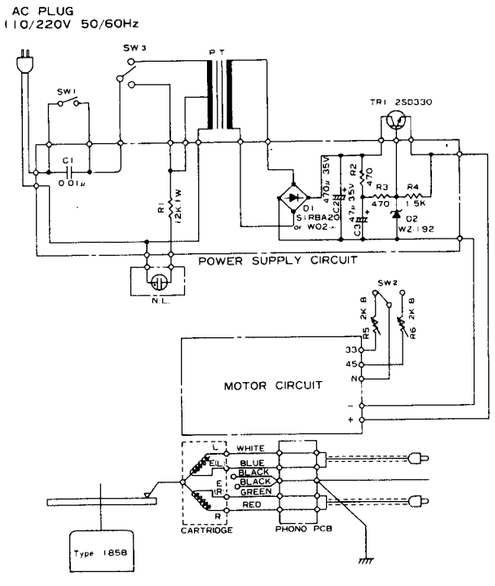

※ Alternative Use

### Version C/U




※ Alternative Use

### Version E,AE

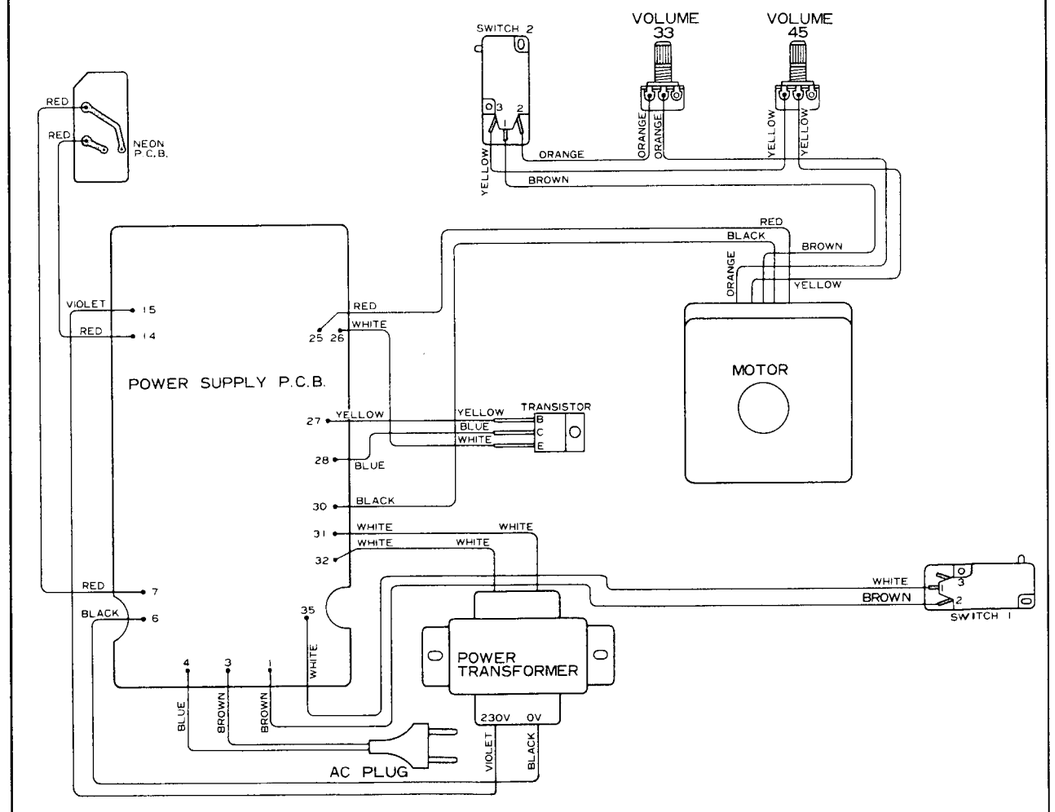



※ Alternative Use

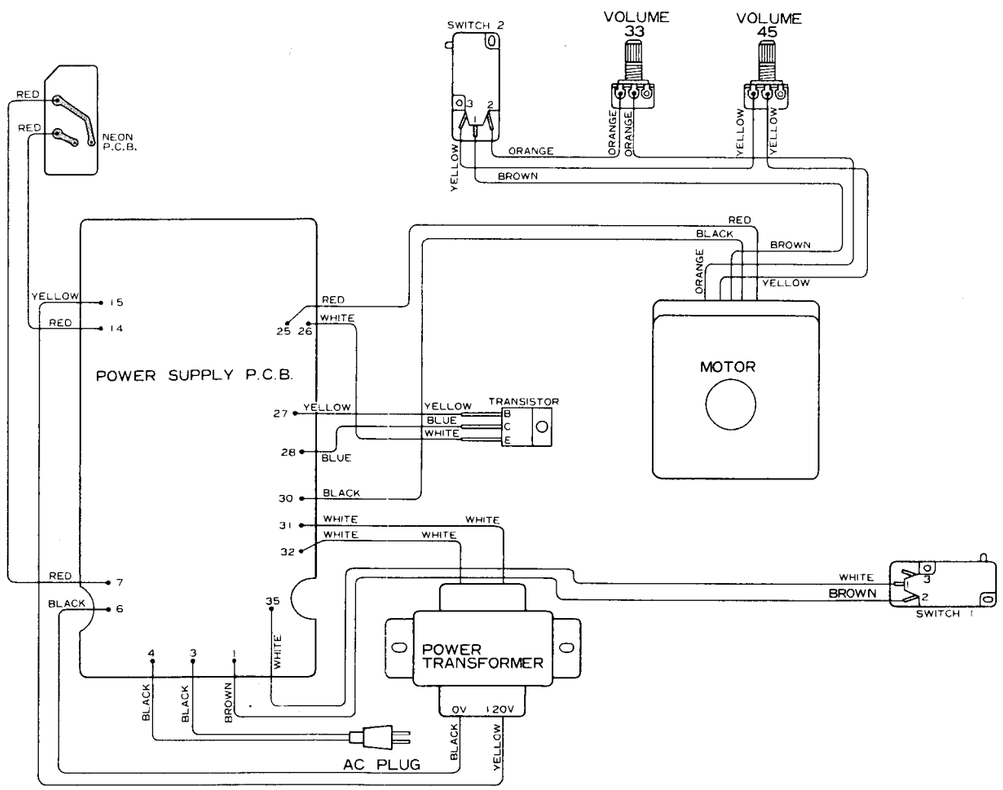


## (3)-2 Wiring Diagrams

### Version N,T,A



## Version C/U



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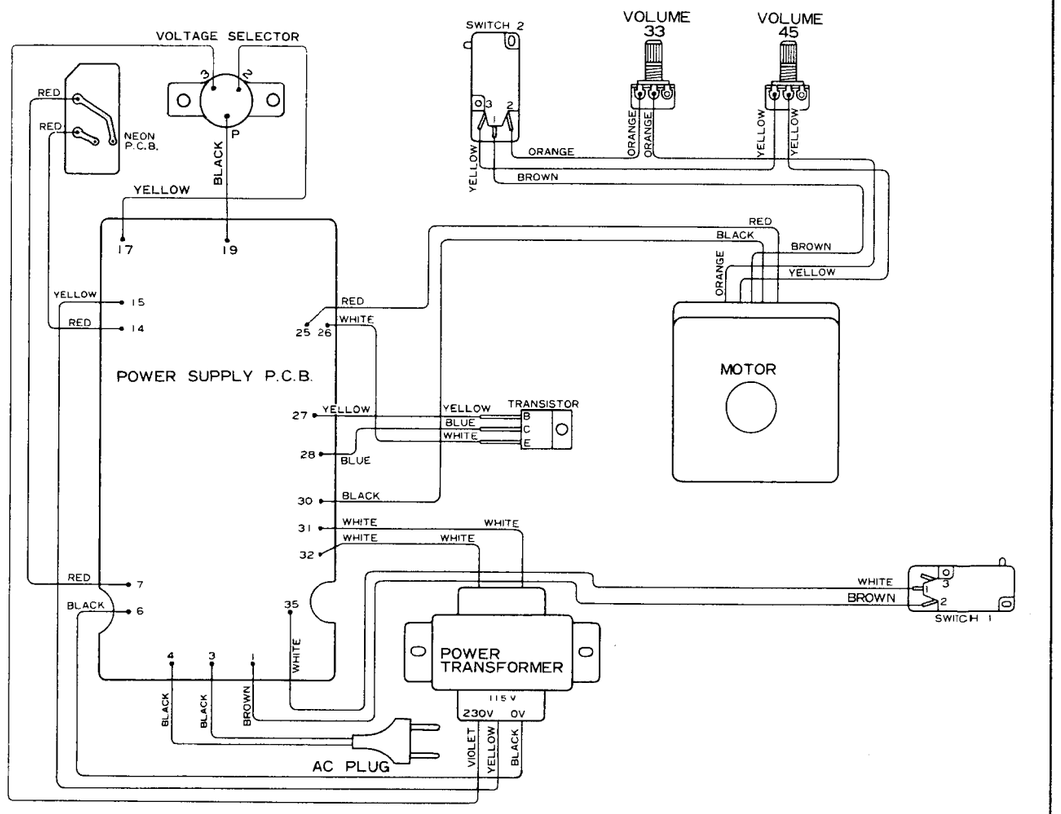
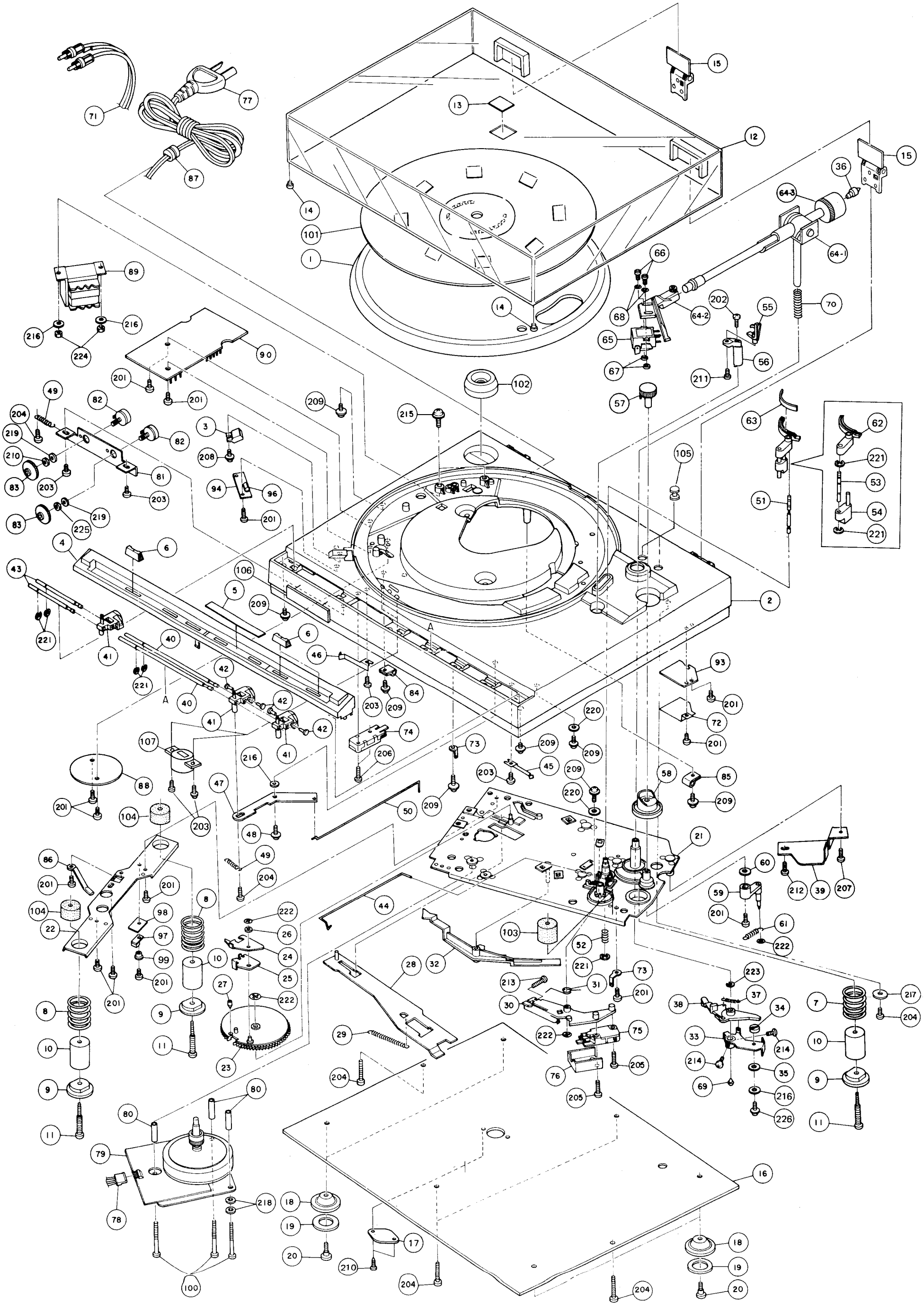
## Version E,AE



## (4)EXPLODED VIEW



| Version | Destination |
|---|---|
| N | Europe (220V 50 Hz) |
| T | England (240V 50 Hz) |
| A | Australia (240V 50 Hz) |
| C/U | North America (120V 60 Hz) |
| E | General (120/220V 50/60 Hz) |
| AE | General (120/220V 50/60 Hz) |

## (5)PARTS LIST

| Ref. No. | Parts No. | Description | Version |
|---|---|---|---|
| 1 | 2045101CEC | Turntable platter | |
| 2 | 1004822CEC | Cabinet | N.E.T.A. |
| 2 | 1004831CEC | Cabinet | C/U. AE. |
| 3 | 4796701CEC | Strobe filter | |
| 4 | 2096301CEC | Control plate | |
| 5 | 4835201CEC | Plate | |
| 6 | 4834500CEC | Knob | |
| 7 | 4799600CEC | Float spring | |
| 8 | 2510214000 | Float spring | |
| 9 | 2210611300 | Holder | |
| 10 | 2520512900 | Cushion | |
| 11 | 2420121800 | Screw | |
| 12 | 2090801CEC | Dust cover | |
| 13 | 4835600CEC | Dust cover logo | |
| 14 | 4420500CEC | Dust cover cushion | |
| 15 | 4786900CEC | Hinge | |
| 16 | 3148600CEC | Bottom base | |
| 17 | 4433600CEC | Blind | N.T.A. |
| 18 | 4783700CEC | Insulator | N.E.T.A.AE |
| 18 | 4783701CEC | Insulator | C/U |
| 19 | 4783800CEC | Felt | |
| 20 | 4797400CEC | Screw | |
| 21 | 2094800CEC | Subchassis | |
| 22 | 3138100CEC | Spring mounting plate | |
| 23 | 2411011100 | Drive gear | |
| 24 | 2412212000 | Ratchet | |
| 25 | 2412211800 | Ratchet | |
| 26 | 2410700400 | Ratchet collar | |
| 27 | 2410918300 | Pin | |
| 28 | 3154100CEC | Return plate assy. | |
| 29 | 2510129500 | Spring | |
| 30 | 2410821000 | Plate | |
| 31 | 4825200CEC | Spring | |
| 32 | 4695900CEC | Return arm | |
| 33 | 4818500CEC | Tonearm fixing plate assy. | |
| 34 | 4799400CEC | Cam | |
| 35 | 2420317501 | Wave washer | |
| 36 | 4784900CEC | Subweight | C/U. AE. |
| 37 | 2510120500 | Spring | |
| 38 | 2412018300 | Lever | |
| 39 | 4818400CEC | Tonearm thrust mounting | |
| 40 | 4805700CEC | Slide guide | |
| 41 | 3135000CEC | Slide lever | |
| 42 | 4798700CEC | Cushion | |
| 43 | 4777900CEC | Slide guide B | |
| 44 | 4778000CEC | Link (L) | |
| 45 | 4798600CEC | Spring | |
| 46 | 4784300CEC | Spring | |
| 47 | 4807400CEC | Lever | |
| 48 | 4783500CEC | Screw | |
| 49 | 4792500CEC | Spring | |
| 50 | 4818900CEC | Spring | |
| 51 | 4772100CEC | Lift bar | |
| 52 | 2510124700 | Spring | |
| 53 | 4772200CEC | Adjusting screw | |
| 54 | 4772000CEC | Actuator | |
| 55 | 4534400CEC | Tonearm rest assy. | |
| 56 | 4771800CEC | Rest arm | |
| 57 | 4805201CEC | Antiskating knob | |
| 58 | 4774300CEC | Point | |
| 59 | 4772300CEC | Antiskating lever | |
| 60 | 4774400CEC | Washer | |
| 61 | 4788700CEC | Antiskating spring | |
| 62 | 3133800CEC | Tonearm support | |
| 63 | 4402701CEC | Tonearm support rubber | |
| 64 | 3163801CEC | Tonearm assy. | N.E.T.A.AE |
| 64 | 3163800CEC | Tonearm assy. | C/U. |
| 64-1 | | Tonearm | N.E.T.A.AE |
| 64-1 | 3163802CEC | Tonearm | C/U. |
| 64-2 | 4834601CEC | Headshell | N.E.T.A.AE |
| 64-2 | 4834600CEC | Headshell | C/U. |
| 64-3 | 4733100CEC | Counterweight | |
| 65 | 4837400CEC | Cartridge | N.E.T.A. |
| 66 | 2420111313 | Cartridge mounting screw | N.E.T.A. |
| 67 | 4321300CEC | Cartridge mounting nut | |
| 68 | 4321400CEC | Cartridge mounting washer | |
| 69 | 2411710600 | Bearing | |

| Ref. No. | Parts No. | Description | Version |
|---|---|---|---|
| 70 | 4819100CEC | Spacer | |
| 71 | 3132403CEC | Output shielded cord | N.E.T.A.AE |
| 71 | 3165200CEC | Output shielded cord | C/U. |
| 72 | 4780500CEC | Shield cover | |
| 73 | 4237921520 | Terminal lug | |
| 74 | 4231921995 | Microswitch | N.T.A. |
| 74 | 4231921993 | Microswitch | E. C/U. AE. |
| 75 | 4231921994 | Microswitch | N.T.A. |
| 75 | 4231921991 | Microswitch | E. C/U. AE. |
| 76 | 2140110300 | Cover | |
| 77 | 4771100CEC | AC power supply cord | E. AE. |
| 77 | 4243200071 | AC power supply cord | N. |
| 77 | 3136803CEC | AC power supply cord | T. |
| 77 | 4771001CEC | AC power supply cord | A. |
| 77 | 4756200CEC | AC power supply cord | C/U. |
| 78 | 4821900CEC | Cord assy. | |
| 79 | 2093402CEC | Motor assy. | |
| 80 | 4712107CEC | Spacer | |
| 81 | 4770600CEC | Variable resistor mounting plate | |
| 82 | 3147700CEC | Variable resistor | |
| 83 | 4342902CEC | Pitch control knob | |
| 84 | 2360812405 | Cord stopper 2N | |
| 85 | 2360812404 | Nylon clamp 3N | |
| 86 | 0301610400 | Clamp wire assy. | |
| 87 | 4442100CEC | Strain relief | N.T.A. |
| 87 | 2611121300 | Bushing | E.C/U.AE. |
| 88 | 4351701CEC | Blind | |
| 89 | 3162600CEC | Power transformer | N.T.A. |
| 89 | 3162800CEC | Power transformer | E. AE. |
| 89 | 3162500CEC | Power transformer | C/U. |
| 90 | 3150601CEC | Power PCB assy. | N.T.A. |
| 90 | 3166000CEC | Power PCB assy. | E. AE. |
| 90 | 3144900CEC | Power PCB assy. | C/U. |
| 91 | 3140300CEC | Power PCB | |
| R1 | XBJ363ACEC | OMF resistor 36 Kohm 2W | N.T.A. |
| R1 | XBJ123ACEC | OMF resistor 12 Kohm 1W | E.C/U.AE. |
| R2 | DPJ471ACEC | Carbon resistor 470 ohm 1/4W | |
| R3 | DPJ471ACEC | Carbon resistor 470 ohm 1/4W | |
| R4 | DPJ152ACEC | Carbon resistor 1.5 Kohm 1/4W | |
| D1 | W0200000CEC | Bridge diode | |
| D2 | WZ19200CEC | Zener diode | |
| C1 | 4807800CEC | Condenser | N.T.A. |
| C1 | HRM103ACEC | Condenser | N.T.A. |
| C1 | FRM103CCEC | Condenser | N.T.A. |
| C1 | 4356200CEC | Condenser | E. AE. |
| C1 | 4795000CEC | Condenser | C/U. |
| C2 | VRE477ACEC | Electrolytic condenser 470μF 35V | |
| C3 | ERE476ACEC | Electrolytic condenser 47μF 25V | N.T.A.C/U. |
| C3 | VRE476ACEC | Electrolytic condenser 47μF 35V | E.AE. |
| 92 | 3061817CEC | Fuse | N.T.A. |
| 92 | 4234921280 | Fuse | C/U. |
| 93 | 4780600CEC | Shield PCB | |
| 94 | 0400102950 | Neon lamp PCB assy. | |
| 95 | 4226204360 | Neon lamp PCB | |
| 96 | 4612920795 | Neon lamp | |
| 97 | 5857033040 | Transistor 2SD 330D | |
| 97 | 5857033050 | Transistor 2SD 330E | |
| 98 | 4497500CEC | Insulation sheet | |
| 99 | 4639600CEC | Bushing | |
| 100 | 4845500CEC | Tapping screw 4 x 35 | |
| 101 | 2096400CEC | Turntable platter mat | N.E.T.A.AE |
| 101 | 2096401CEC | Turntable platter mat | C/U |
| 102 | 4310000CEC | 45 rpm adapter | |
| 103 | 4446400CEC | Cushion | |
| 104 | 4446401CEC | Cushion | |
| 105 | 2290411001 | Pad | C/U. |
| 106 | 4835900CEC | Cabinet badge | C/U. AE. |
| 107 | 3166100CEC | Voltage selector | E. AE. |
| 108 | 4690500CEC | Plug conversion | E. AE. |

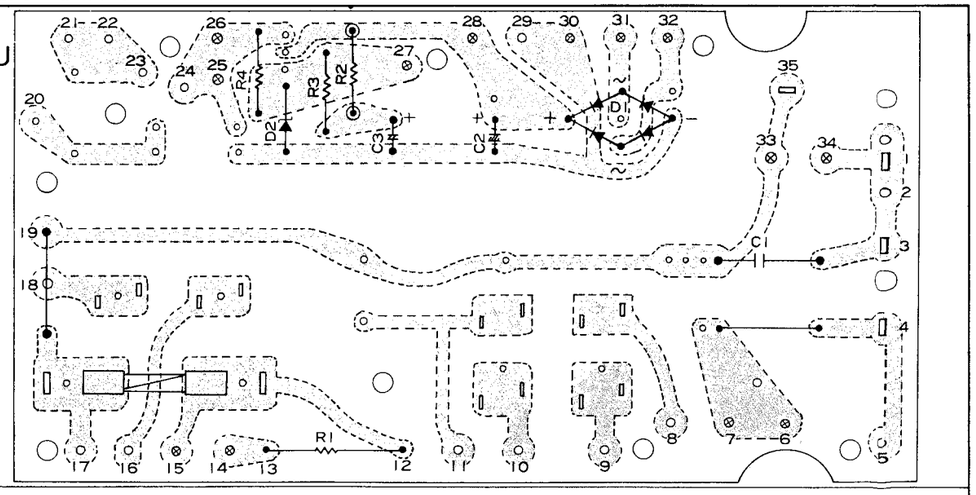


## (6)SCREWS, WASHERS AND NUTS

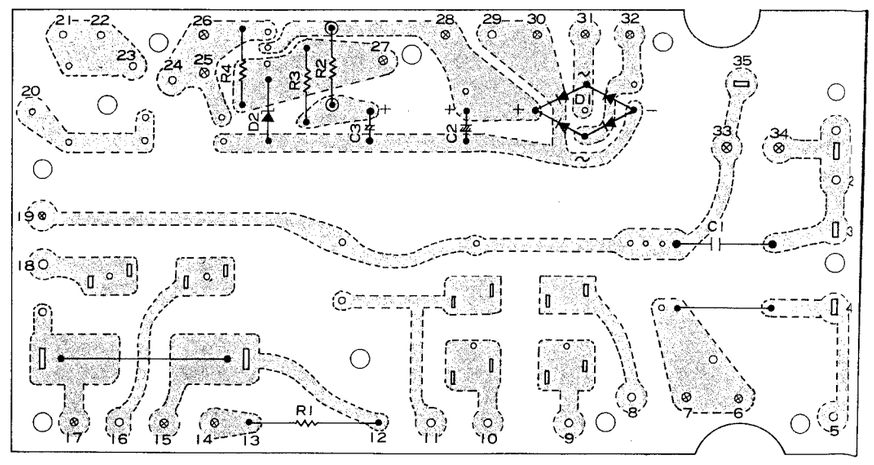
| Ref. No. | Parts No. | Description | Ref. No. | Parts No. | Description |
|---|---|---|---|---|---|
| 201 | 2012200CEC | ⊕ Brazier head taptite screw B φ3x8 | 212 | 2122200CEC | ⊕ Pan head taptite screw B φ3x35 |
| 202 | 2022200CEC | ⊕ Brazier head taptite screw B φ3x8 (Bronze) | 213 | 2132200CEC | ⊕ Pan head taptite screw C φ3x14 |
| | | | 214 | 2142200CEC | ⊕ Pan head screw M3x6 |
| 203 | 2032200CEC | ⊕ Brazier head taptite screw B φ3x10 | 215 | 2152200CEC | ⊕ Pan head Sems screw with plain washer M3x20 |
| 204 | 2042200CEC | ⊕ Brazier head taptite screw B φ3x12 | | | |
| 205 | 2052200CEC | ⊕ Brazier head taptite screw B φ3x16 | 216 | 2162200CEC | Plain washer 3φx10φx1t |
| 206 | 2062200CEC | ⊕ Brazier head taptite screw B φ3x20 | 217 | 2172200CEC | Plain washer 3φx16φx1t |
| 207 | 2072200CEC | ⊕ Brazier head taptite screw B φ3x25 | 218 | 2182200CEC | Plain washer 4φx10φx1.6t |
| 208 | 2082200CEC | ⊕ Brazier head taptite screw B φ3x8 with plain washer | 219 | 2192200CEC | Plain washer 7φx12φx0.5t |
| | | | 220 | 2202200CEC | Nylon washer 3φx12φx1t |
| 209 | 2092200CEC | ⊕ Brazier head taptite screw B φ3x10 with plain washer | 221 | 2212200CEC | E type washer 2φ |
| | | | 222 | 2222200CEC | Stop ring CSTW-3 |
| 210 | 2102200CEC | ⊕ Brazier head tapping screw (class 1) φ3x6 | 223 | 2232200CEC | Stop ring CSTW-5 |
| | | | 224 | 2242200CEC | Hexagon nut M3 |
| 211 | 2112200CEC | ⊕ Pan head taptite screw B (Bronze) φ2.6x6 | 225 | 2252200CEC | Hexagon nut M7 |
| | | | 226 | 2262200CEC | ⊕ Pan head screw M3x4 |

## (7)POWER SUPPLY PRINTED CIRCUIT BOARD

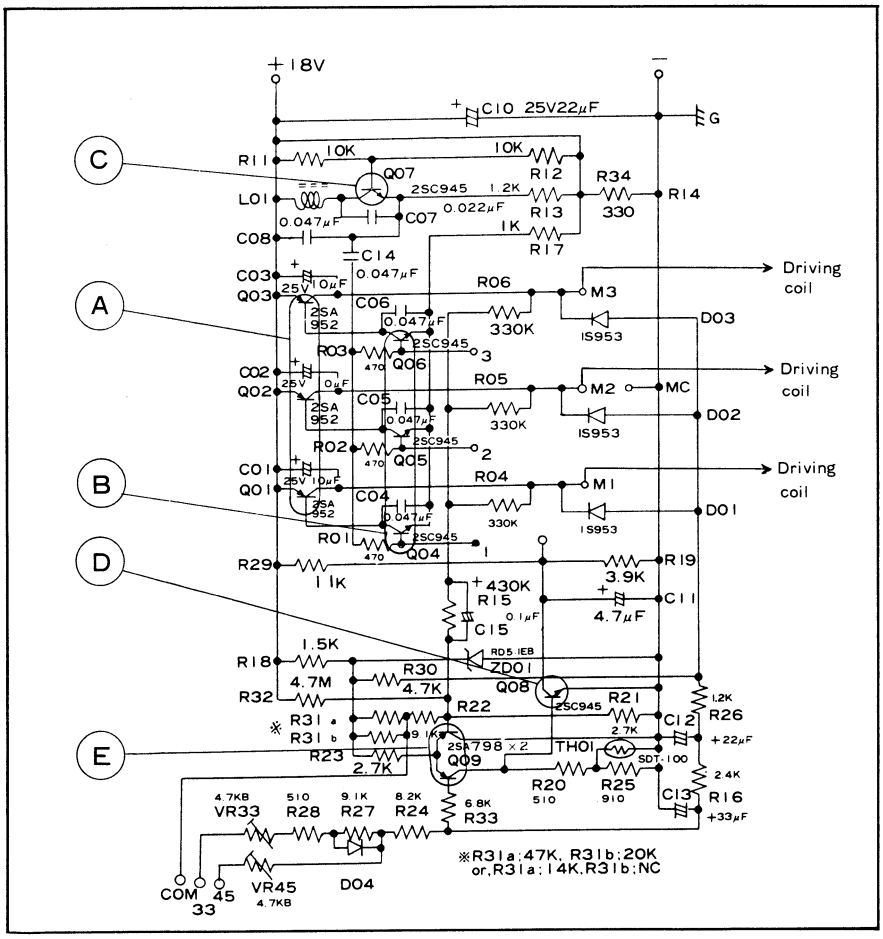
Version N,T,A C/U




Version E,AE



# (8)SERVO CONTROLLER CIRCUIT DIAGRAM




| | Tr No. | Base Voltage | Collector Voltage | Wave form Base | Wave form Collector |
|---|---|---|---|---|---|
| Ⓐ | Q01～03 | 18V DC | 2.8V 1.2VAC | G 18V (DC) | G 2.8V 1.2V (AC) |
| Ⓑ | Q04～06 | 2Vp-pAC | 0.2Vp-pAC | G 2V p-p | G 0.2V p-p |
| Ⓒ | Q07 | 1.6Vp-pAC | 17Vp-pAC | G 1.6Vp-p | G 17V pp |
| Ⓓ | Q08 | 0.7V DC | 2.5V DC | G 0.7V (DC) | G 2.5V (DC) |
| Ⓔ | Q09a<br>b | 0.5V DC<br>〃 | OV,E1VDC<br>0.65V DC | G 0.5V (DC) | G 1V(DC)<br>G 0.65V (DC) |

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